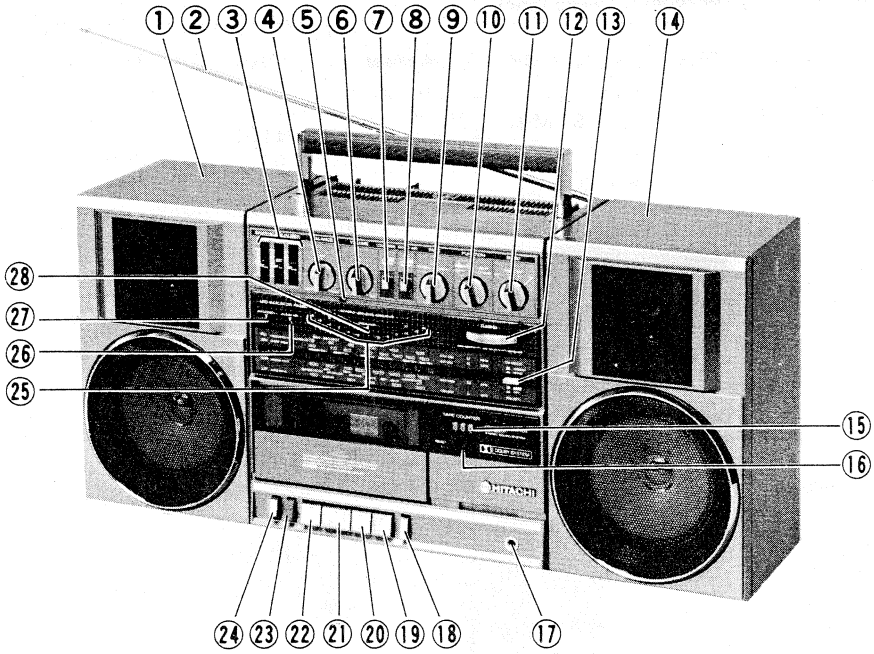
# HITACHI
# SERVICE MANUAL

**TK** | **No. 1888E**

## TRK-9100E/EZ/ E(BS)/E(AU)




### CONTENTS


SPECIFICATIONS ..... 2
DISASSEMBLY ..... 2
ADJUSTMENT ..... 4
INSPECTION OF MECHANISM ..... 6
LUBRICATION ..... 6
SCHEMATIC DIAGRAM
Tuner section ..... 7
Tape recorder section ..... 13
CIRCUIT BOARD DIAGRAM
Tuner section ..... 9
Tape recorder section ..... 11
WIRING DIAGRAM ..... 16
DIAL CORD STRINGING ..... 19
REPLACEMENT PARTS LIST ..... 20
EXPLODED VIEW ..... 23


### KEY TO ILLUSTRATIONS

① SPEAKER BOX (LEFT)
② TELESCOPIC ANTENNA (AERIAL)
③ GRAPHIC EQUALIZER CONTROLS
④ BALANCE CONTROL
⑤ BUILT IN MICROPHONE (MONAURAL)
⑥ VOLUME CONTROL
⑦ LOUDNESS SWITCH
⑧ DOLBY NR SWITCH
⑨ TAPE SELECTOR
⑩ FUNCTION SELECTOR
⑪ BAND SELECTOR
⑫ TUNING CONTROL
⑬ FM MODE/FM AFC SWITCH
⑭ SPEAKER BOX (RIGHT)
⑮ TAPE COUNTER
⑯ COUNTER RESET BUTTON
⑰ HEADPHONES SOCKET
⑱ PAUSE BUTTON
⑲ STOP BUTTON
⑳ FAST FORWARD/CUE BUTTON
㉑ PLAYBACK BUTTON
㉒ REWIND/REVIEW BUTTON
㉓ RECORD BUTTON
㉔ EJECT BUTTON
㉕ LED LEVEL INDICATORS
㉖ DOLBY NR INDICATOR
㉗ FM STEREO INDICATOR
㉘ OPERATION INDICATORS

### SAFETY PRECAUTION

**The following precautions should be observed when servicing.**

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi's replacement parts. Especially critical parts in the power circuit block should not be replaced with other makes. Critical parts are marked with ⚠ in the schematic diagram and circuit board diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

# FM/SW/MW/LW RADIO CASSETTE TAPE RECORDER

**Feb. 1983** **TOKAI WORKS**

# SPECIFICATIONS

## GENERAL SECTION

| | |
|---|---|
| Semi-conductors : | ICs : 8<br>Transistors : 10 [E/E(BS)/E(AU)]<br>11 [EZ]<br>Diodes : 4<br>LEDs : 13<br>Varicap : 1 |
| Power (Mains) Supply : | AC : 220V, 50Hz [E/EZ]<br>240V, 50Hz [E(BS)/E(AU)]<br>DC : 12V (IEC R20 × 8 or equivalent) |
| Power (Mains) Consumption : | 28W [E/EZ]<br>24W [E(BS)/E(AU)] |
| Power output : | 15W M.P.O. (AC operation)<br>5W/CH (10% T.H.D.DC) |
| Speakers : | 12cm, 2.8 ohms × 2<br>3cm, 3000 ohms × 2<br>2cm, 500 ohms × 2 |
| Dimensions : | 54.2 (W) × 25.3 (H) × 17.7 (D) cm |
| Weight | 7.4 kg (with batteries) |

## TUNER SECTION

| | |
|---|---|
| Circuit System | FM/SW/MW/LW 4-band superheterodyne |
| Tuning Range : | FM : 87.5 to 108MHz<br>SW : 6 to 18MHz<br>MW : 530 to 1605kHz<br>LW : 150 to 350kHz |
| Sensitivity : | FM : 10dB (pra.), 0dB (max.)<br>SW : 25dB (pra.), 20dB (max.)<br>MW : 45dB (pra.), 35dB (max.)<br>LW : 52dB (pra.), 40dB (max.) |
| Intermediate Frequency : | FM : 10.7MHz<br>SW/MW/LW : 468kHz |
| Antennas (Aerials) : | FM/SW : Telescopic antenna (aerial)<br>MW/LW : Ferrite-core antenna (aerial) |

## TAPE RECORDER SECTION

| | |
|---|---|
| Tape : | Cassette tape (C-30, 60, 90) |
| Tape Speed : | 4.75cm/s |
| Recording System : | AC bias, 57kHz |
| Erasing System : | AC erasing |
| Frequency Response : | METAL ; 40 to 14,000Hz<br>$CrO_2$ ; 40 to 13,000Hz<br>Normal ; 40 to 12,000Hz |
| S/N (Signal to Noise Ratio) : | 60dB (Dolby NR ON) |
| Wow & Flutter : | 0.08% (WRMS) |
| Crosstalk : | Between tracks : 50dB<br>Between channels : 30dB |
| Erase Ratio : | 65dB |
| Input sensitivity and Impedance : | Microphone : 4mV, 600 ohms<br>DIN : 0.5mV/k ohms, 20k ohms<br>Phono : 6mV, 50k ohms |
| Output Level and Impedance : | DIN : 450mV, 5k ohms<br>Headphone : 8 ohms – 300 ohms<br>Ext, speaker : 2,8 – 8 ohms |
| Fast Forward or Rewinding Time : | 120sec (Using C-60) |
| Distortion : | 2 % |
| Motor : | DC micromotor |

# DISASSEMBLY

1. Rear case
   1) Remove eight knobs (Band, Function, Tape, Volume, Balance, Graphic Equalizers) and remove Ⓐ (six) screws.
   2) Open the cassette lid and remove the rear case.

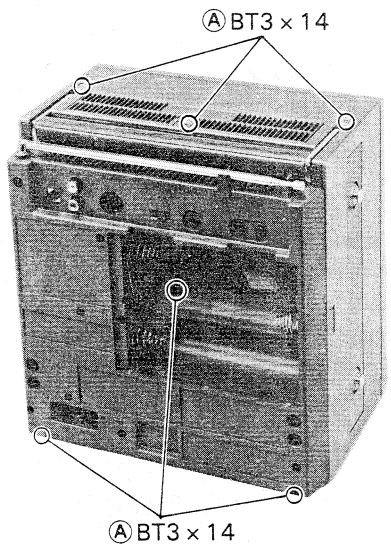



Fig. 1

2. Cassette lid
   Push the cassette lid arm in the direction of the arrow and pull out the cassette lid.
3. Function button assembly
   Insert a ⊖ screwdriver into the recess in the front case and push out the function button assembly.

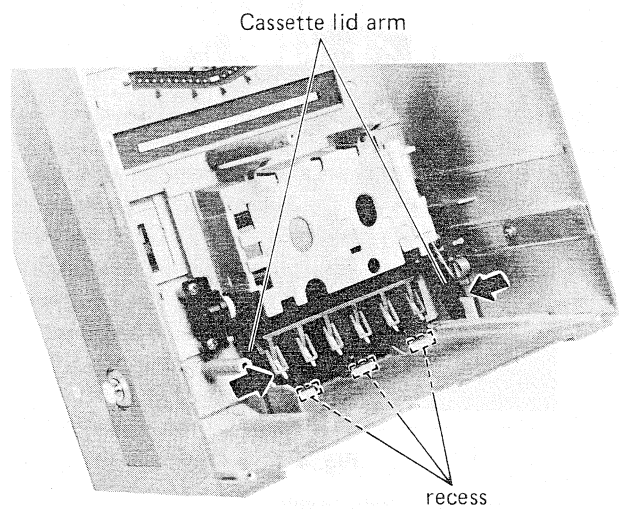



Fig. 2

4. **Cassette chassis**
   Remove Ⓑ spring and Ⓒ (four) screws.
5. **Control PC board**
   Remove Ⓓ (two) screws.
6. **PC board holder**
   Remove Ⓔ (two) screws.
7. **Headphone PC board**
   Remove Ⓕ (one) nut and Ⓖ (two) screws.

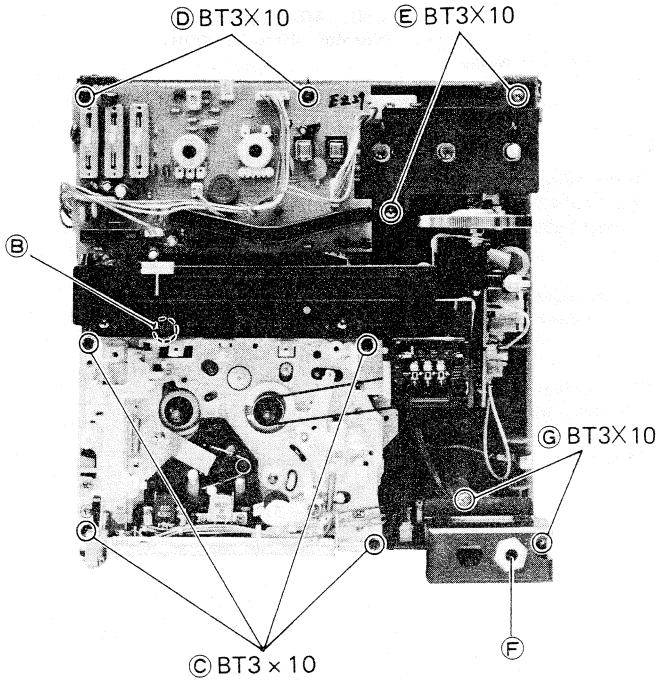



Fig. 3

8. **Tuner PC board**
   Remove Ⓗ (two) screws.

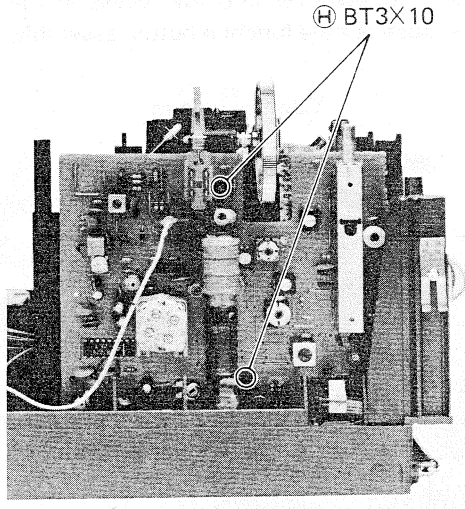



Fig. 4

9. **Dial cord stringing holder**
   Remove Ⓘ (three) screws.
10. **Power PC board**
    Remove Ⓙ (four) screws and Ⓚ (two) connectors.
11. **Main PC board and record arm**
    Remove Ⓛ (three) screws.

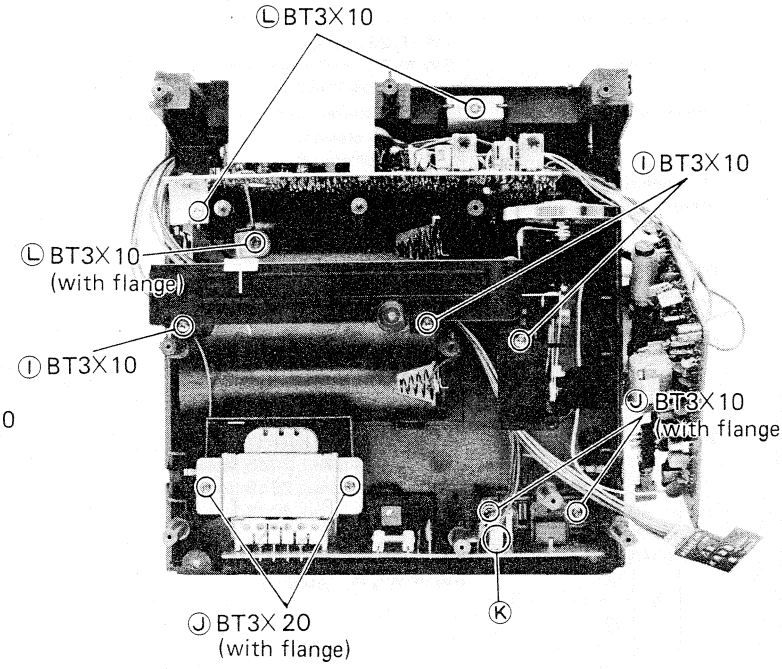



Fig. 5

# ADJUSTMENT

## 1. Tuner Section

* For TRK-9100EZ

| Step | | Adjustment Item | Measuring Instrument and Connection | | | Genescope or Signal Generator Frequency | Dial Pointer Position | Adjust | Reading |
|---|---|---|---|---|---|---|---|---|---|
| | | | Measuring Instrument | Input Terminal | Output Terminal | | | | |
| 1 | (1) | FM IF | • Genescope (10.7 MHz) | TP103 | TP201 | 10.7 MHz | Highest | T101 | Note 1 |
| 2 | (1) | FM OSC. (Covering) | • FM signal generator (400 Hz 30% mod.) • Oscilloscope • VTVM | TP101, 102 (thru FM dummy antenna) [Note 2] | TP201 | 87 MHz (87.5 MHz*) | Lowest | L102 | Output Max. |
| | (2) | | | | | 109 MHz (108 MHz*) | Highest | CT102 | |
| | (3) | | | | | Repeat steps (1) and (2) | | | |
| 3 | (1) | FM ANT. (Tracking) | | | | 90 MHz | 90 MHz | L101 | Output Max. |
| | (2) | | | | | 106 MHz | 106 MHz | CT101 | |
| | (3) | | | | | Repeat steps (1) and (2) | | | |
| 4 | (1) | FM MPX (Multiplex) | • Frequency counter | Connect a 10μF 25V electrolytic capacitor between the No. 2 pin of IC301 and ground. | TP301 | —— | —— | RT301 | 19 kHz ±200Hz (Note 3) |
| 5 | (1) | AM IF | • Genescope (468 kHz) | Ferrite-core antenna (Note 4) | TP201 | 468 kHz | Highest | —— | Note 5 |
| | (2) | | | | | | | | |
| 6 | (1) | LW OSC. (Covering) | • AM signal generator (400 Hz, 30% mod.) • VTVM | Ferrite-core antenna (Note 4) | TP201 | 145 kHz | Lowest | L156 | Output Max. |
| | (2) | | | | | 360 kHz | Highest | CT156 | |
| | (3) | | | | | Repeat steps (1) and (2) | | | |
| 7 | (1) | LW ANT. (Tracking) | | | | 160 kHz | 160 MHz | L153 | Output Max. |
| | (2) | | | | | 330 kHz | 330 kHz | CT153 | |
| | (3) | | | | | Repeat steps (1) and (2) | | | |
| 8 | (1) | MW OSC. (Covering) | • AM signal generator (400 Hz, 30% mod.) • VTVM | Ferrite-core antenna (Note 4) | TP201 | 515 kHz | Lowest | L155 | Output Max. |
| | (2) | | | | | 1650 kHz | Highest | CT155 | |
| | (3) | | | | | Repeat steps (1) and (2) | | | |
| 9 | (1) | MW ANT. (Tracking) | | | | 600 kHz | 600 kHz | L152 | Output Max. |
| | (2) | | | | | 1400 kHz | 1400 kHz | CT152 | |
| | (3) | | | | | Repeat steps (1) and (2) | | | |
| 10 | (1) | SW OSC. (Covering) | • AM signal generator (400 Hz, 30% mod.) • VTVM | TP101, 102 (thru SW dummy antenna) [Note 6] | TP201 | 5.8 MHz | Lowest | L154 | Output Max. |
| | (2) | | | | | 18.5 MHz | Highest | CT154 | |
| | (3) | | | | | Repeat steps (1) and (2) | | | |
| 11 | (1) | SW ANT. (Tracking) | | | | 6.5 MHz | 6.5 MHz | L151 | Output Max. |
| | (2) | | | | | 16 MHz | 16 MHz | CT151 | |
| | (3) | | | | | Repeat steps (1) and (2) | | | |

**Note :**

1. Feed in a weak signal to TP103 from the genescope. Adjust the T101 core to form the S-curve shown in Figure 6. Adjust the symmetry of A and B about point C for linearity.

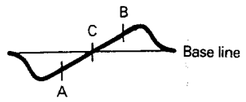



**Fig. 6**

2. FM dummy antenna shows Figure 7.

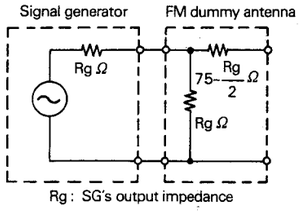



**Fig. 7**

3. Connect the frequency counter to TP301, via a resistor of 100 kΩ.
4. Connect AM signal generator to loop antenna, bring near to ferrite antenna.
5. Feed in a weak signal from the genescope and confirm that the waveform is obtained shown in Figure 8.

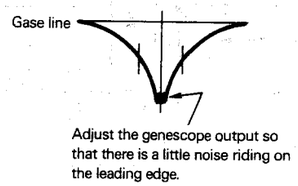



**Fig. 8**

6. SW dummy antenna shows Figure 9.

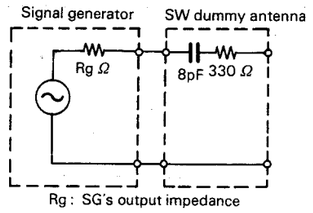



**Fig. 9**

## 2. Tape Recorder Section

Perform the following adjustments in the sequence stated after cleaning the head, pressure roller, and capstan with a head cleaning stick moisted in alcohol.

Also, unless otherwise specified, set the switches to the positions indicated in the table.

| Symbol No. | Switches | Position |
|---|---|---|
| S4 | Tape select switch | NORMAL |
| S5 | Function selector | TAPE |
| S6 | Dolby NR switch | OFF |

| Step | Adjustment Item | Measuring Instrument and connection | | | Check Tape | Mode | Adjusted Position | Adjusted Value | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | Measuring Instrument | Input Terminal | Output Terminal | | | | | |
| 1 | Head azimuth | • VTVM | —— | DIN socket (output) | Head azimuth test tape (10 kHz) | Playback | Azimuth adjusting screw | Output Max. | Note 1 |
| 2 | Playback gain | • VTVM | —— | TP401L, R | Dolby test tape (400 Hz, 200 nWb/m) | Playback | RT401L, R | 450 mV ( ◻◻ +3 dB ) | Note 2 |
| 3 | Record/ playback frequency characteristics | Set the RIF switch to A position | | | | | | | |
| | | • Audio oscilllator (1.25 kHz/ 12.5 kHz) • Attenuator • VTVM | DIN socket (input) | TP401L, R | NORMAL tape | Record/ playback | RT402, R | Output difference within ± 2 dB | Note 3 |



**Note :**

1. When the maximum values of both channels are different, adjust to the maximum value of the L channel. In this case, the difference between the maximum values of both channels should be within 2dB.
2. 1) Playback a Dolby test tape (400Hz, 200 nWb/m) and adjust RT401L, R so that the level of TP1L, R becomes 450 mV.
   2) Confirm that the +3dB level indictors ( ◻◻ ) light.
3. 1) Freed a 1.25 kHz signal to the DIN socket (input) in the recording mode and adjust the audio oscillator so that the level of TP401L, R becomes 450 mV. Then, adjust the attenuator to lower the output level by 20 dB.
   2) Record the signal on NORMAL tape with the conditions of item 1), then continue to record with the audio oscillator frequency set to 12.5 kHz.
   3) Playback the recorded signal and adjust RT402L, R so that the output level difference between two frequencies is within ±2dB.

## INSPECTION OF MECHANISM

| Item No. | Inspection item | Reference value | Remarks |
|---|---|---|---|
| 1 | Pressure of pressure roller | 375 ± 75 g | Note 1 |
| 2 | Take-up torque | 30 ~ 55 g·cm | |
| 3 | East forward torque | 75 ~ 115 g·cm | |
| 4 | Rewind torque | 75 ~ 115 g·cm | |
| 5 | Supply reel back-tension | 2.0 ~ 4.5 g·cm | Without counter |
| 6 | Take-up reel back-tension | 2.0 ~ 4.0 g·cm | Without counter |
| 7 | Brake force | 10 g·cm or more | |
| 8 | PLAY, REC, FF, REW, STOP buttons | 0.25 kg or less | |
| 9 | PAUSE button | 0.3 kg or less | |
| 10 | Flywheel thrust gap | 0.05 ~ 0.5 mm | |

**Note 1**

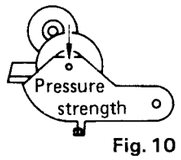



**Fig. 10**

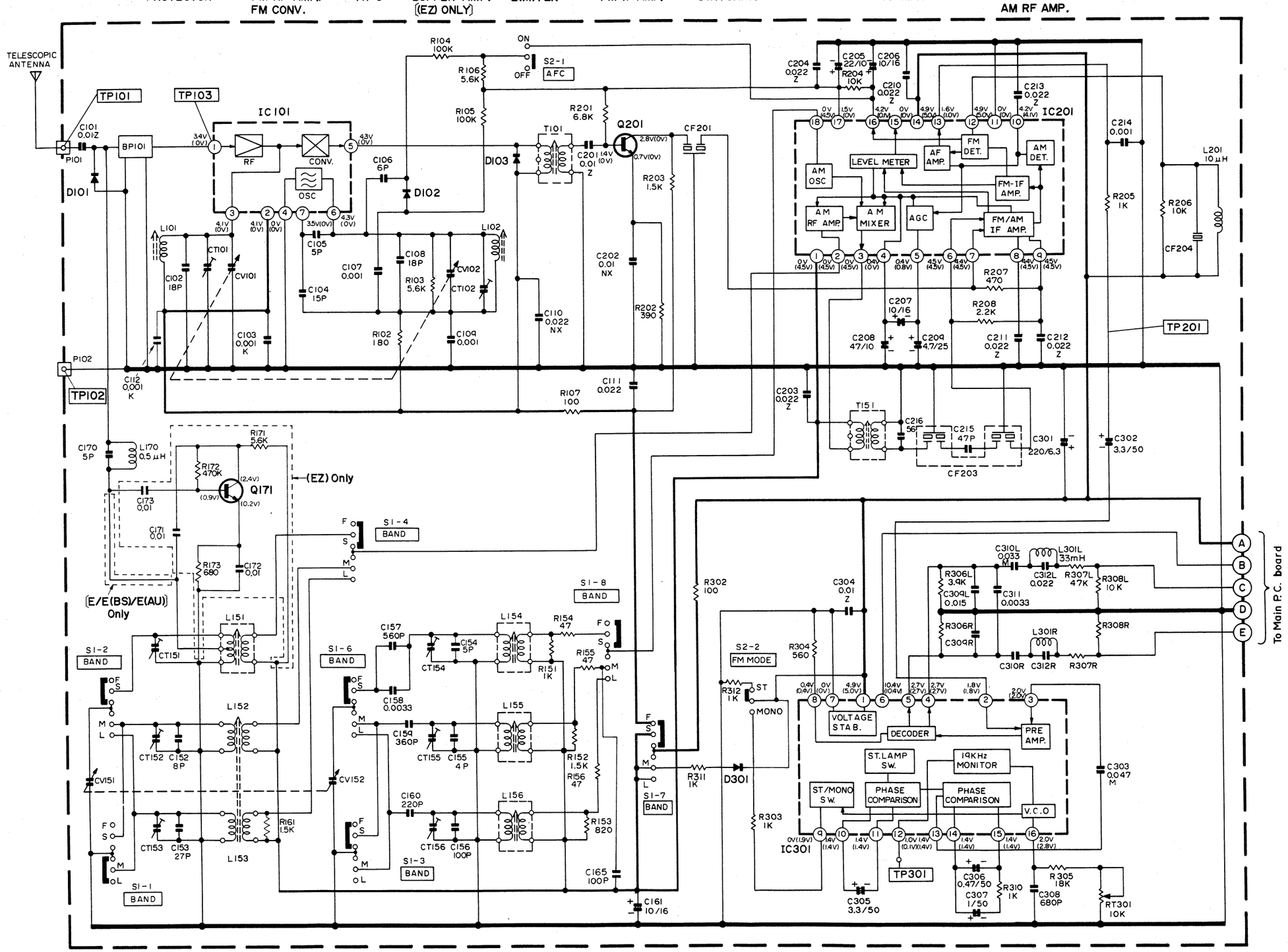
## LUBRICATION

Lubricate one or two drops of oil to rotating point or lubricate grease to sliding point.
Lubricate the respective parts listed once every 1000 hours or once a year under normal conditions of use.
Avoid oiling them excessively, or rotation may become irregular because of oil splashes.

| Lubrication | | Oil or Grease |
|---|---|---|
| Rotary Section | Metal and metal | Pan motor oil (10W -40) |
| | Mold and metal | Sonic slider oil (# 1600) |
| Sliding section | Metal and metal | Hitasol (MO-138) |
| | Mold and mold Mold and metal | White grease (FL-LUBE-A) |
| Spring resonance prevention | | Floil (GB-TS-1) |

## SCHEMATIC DIAGRAM (Tuner Section)

D101 ISS133 PROTECTOR
IC101 AN7213A FM RF AMP./ FM CONV.
D102 IS2790 AFC
Q171 2SC380 BUFFER AMP. (EZ) ONLY
D103 ISS133 LIMITER
Q201 2SC380 FM IF AMP.
D301 ISS133 SWITCHING
IC301 BA1330 FM MPX
IC201 AN7224 FM/AM IF AMP. AM RF AMP.




Voltages are measured in FM mode.
Inside ( ) voltages are measured in AM mode.

## CIRCUIT BOARD DIAGRAM (Tuner Section)

### Note

1. Voltage measured at base of chassis with minimum volume control and no signal.
2. Nomenclature of Resistors and Capacitors.

R101 150-RS-1-K

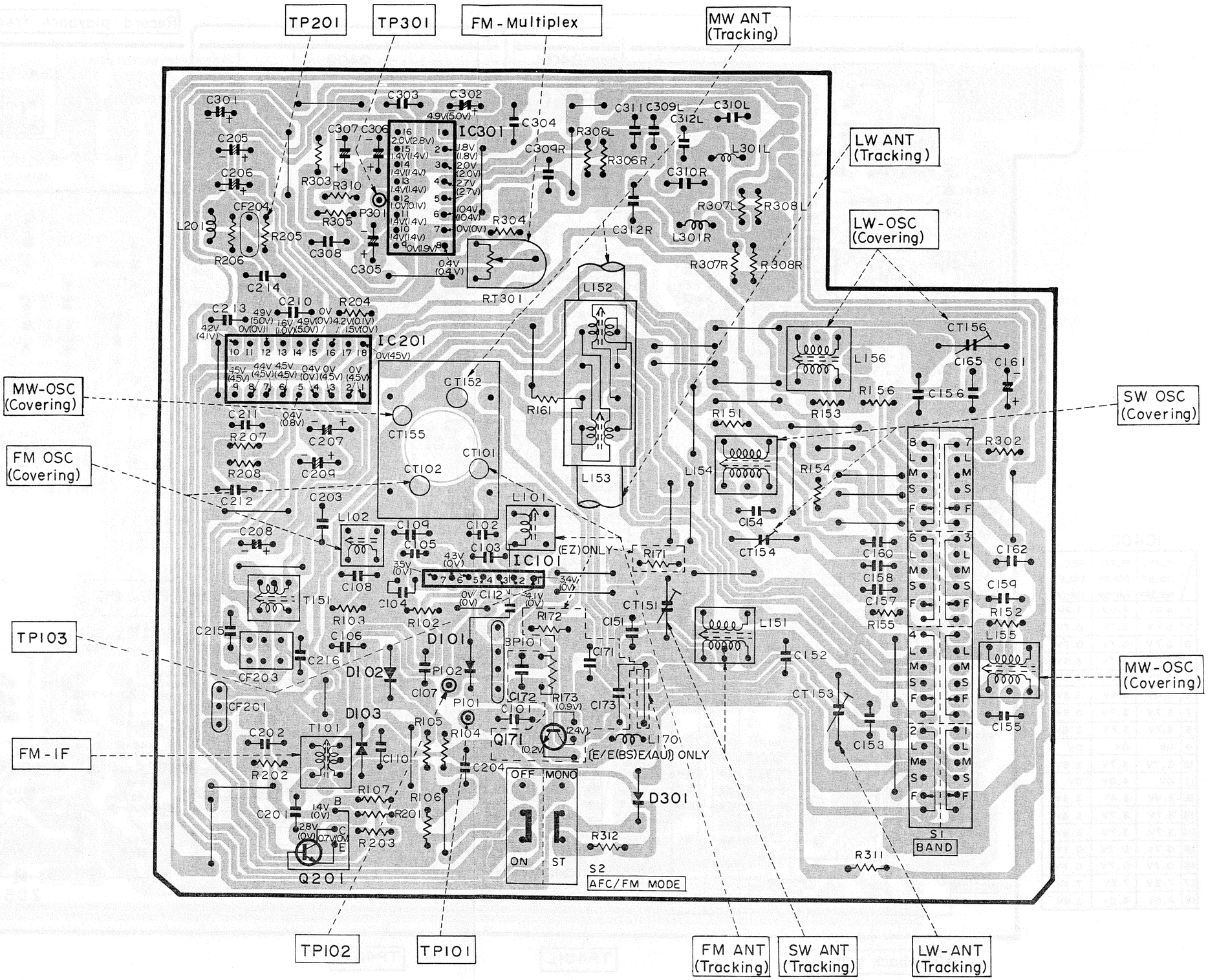
| Circuit No. | |
|---|---|
| Value | No indicated Ω(Ohm) M : 1000kΩ |
| Tolerance | No indicated ±5% K : ±10% M : ±20% |
| Wattage | No indicated ¼W |
| Sort | No indicated Carbon film RC : Composition RW : Wire wound RS : Oxide metal film RN : Fixed metal film |

C101 0.001-M

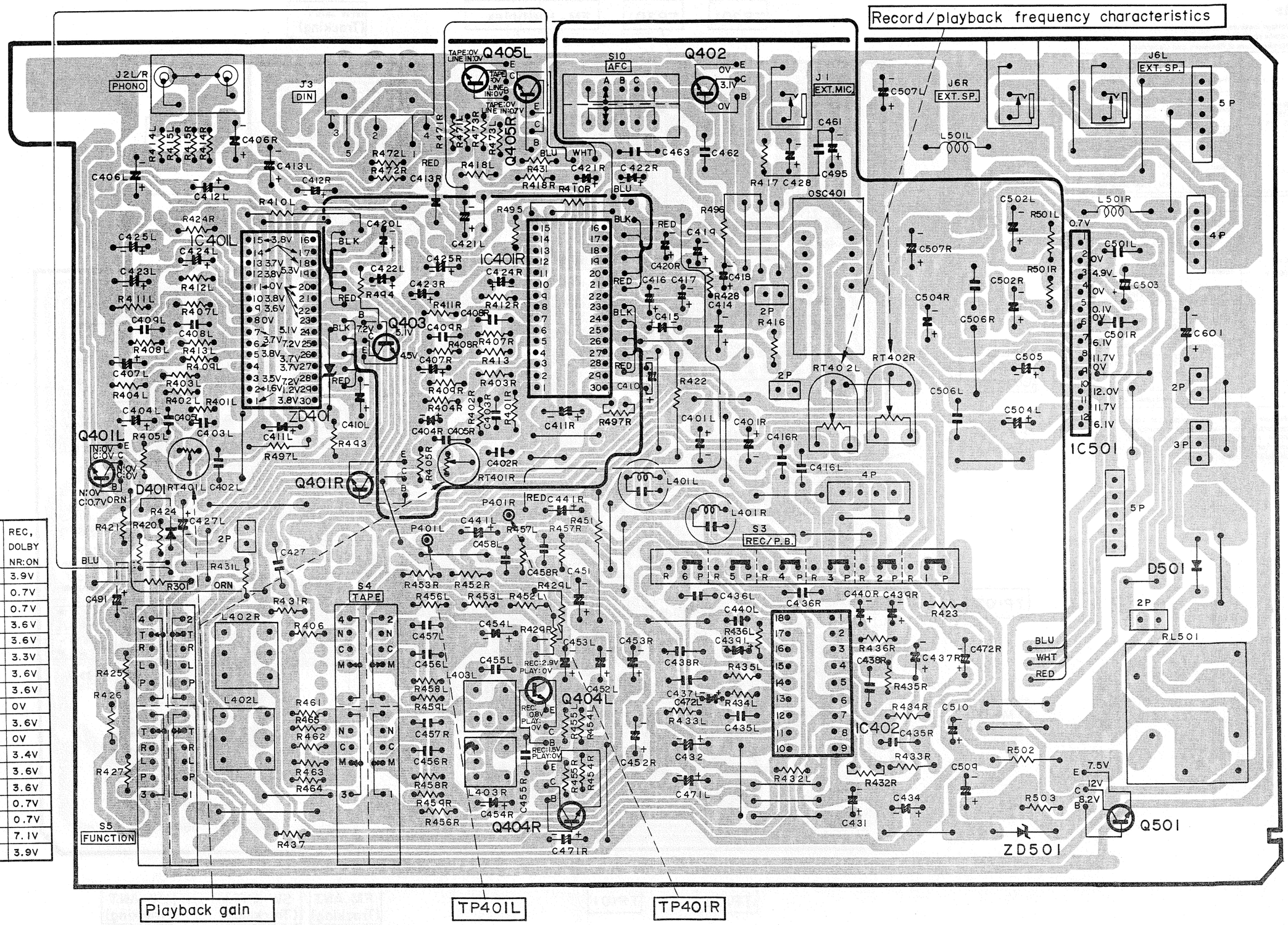
C102 0.1/16

| Circuit No. | | |
|---|---|---|
| Value | No indicated μF P : PF | |
| Tolerance | No indicated ±10% J : ± 5% M : ±20% Z : +80% −20% D : ±0.5pF C : ±0.25pF | |
| Sort | | Ceramic |
| | | Electrolitic |
| | | Mylar |
| | | Polyester |
| | | Styrol |
| Voltage | No indicated 50WV | |

3. Be sure to make your orders of resistors and capacitors with value, voltage, tolerance and sort.
4. When replacing capacitors marked with ✻, use specified ones stated on parts list since required temperature characteristics.



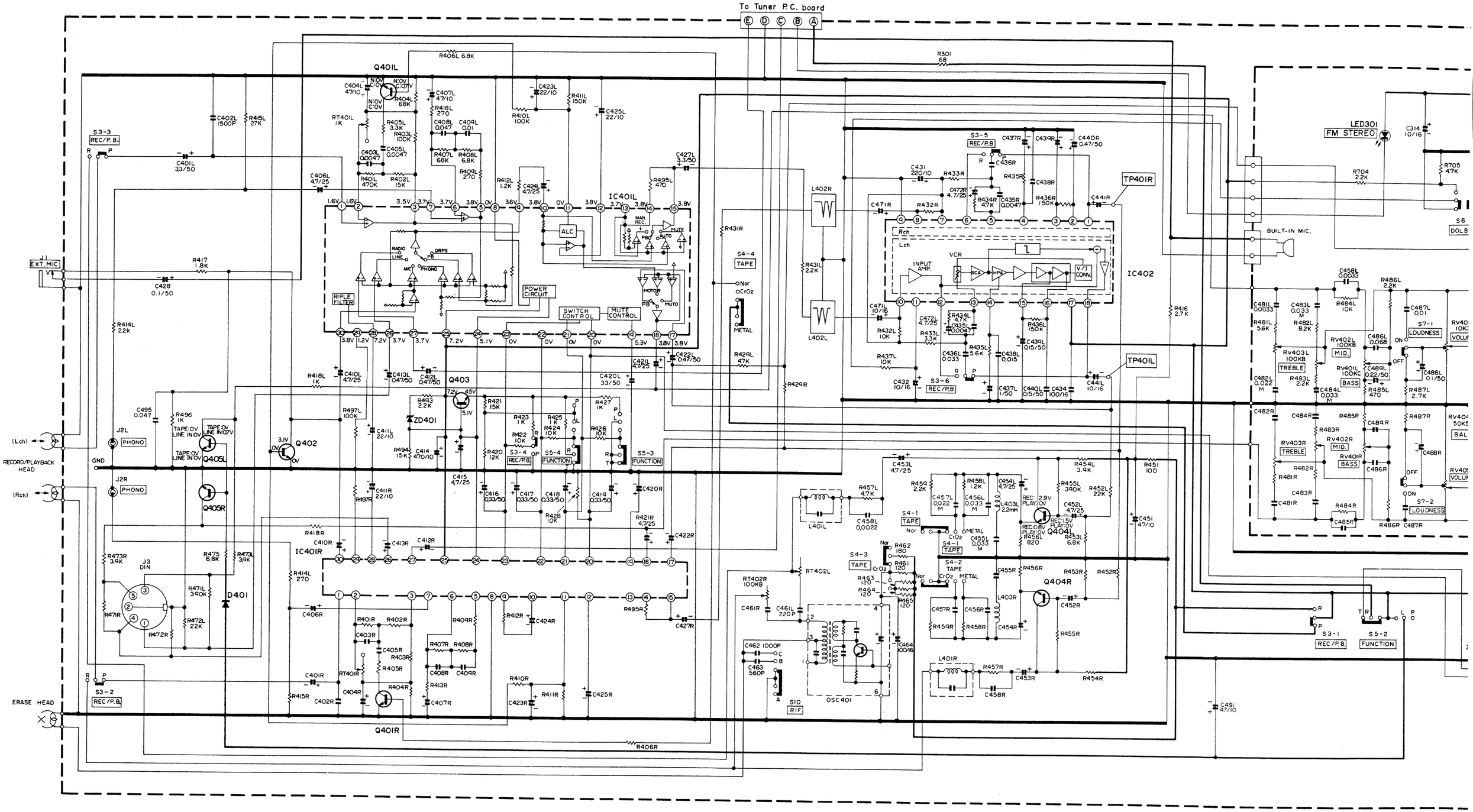
## CIRCUIT BOARD DIAGRAM (Tape Recorder Section)




### IC402

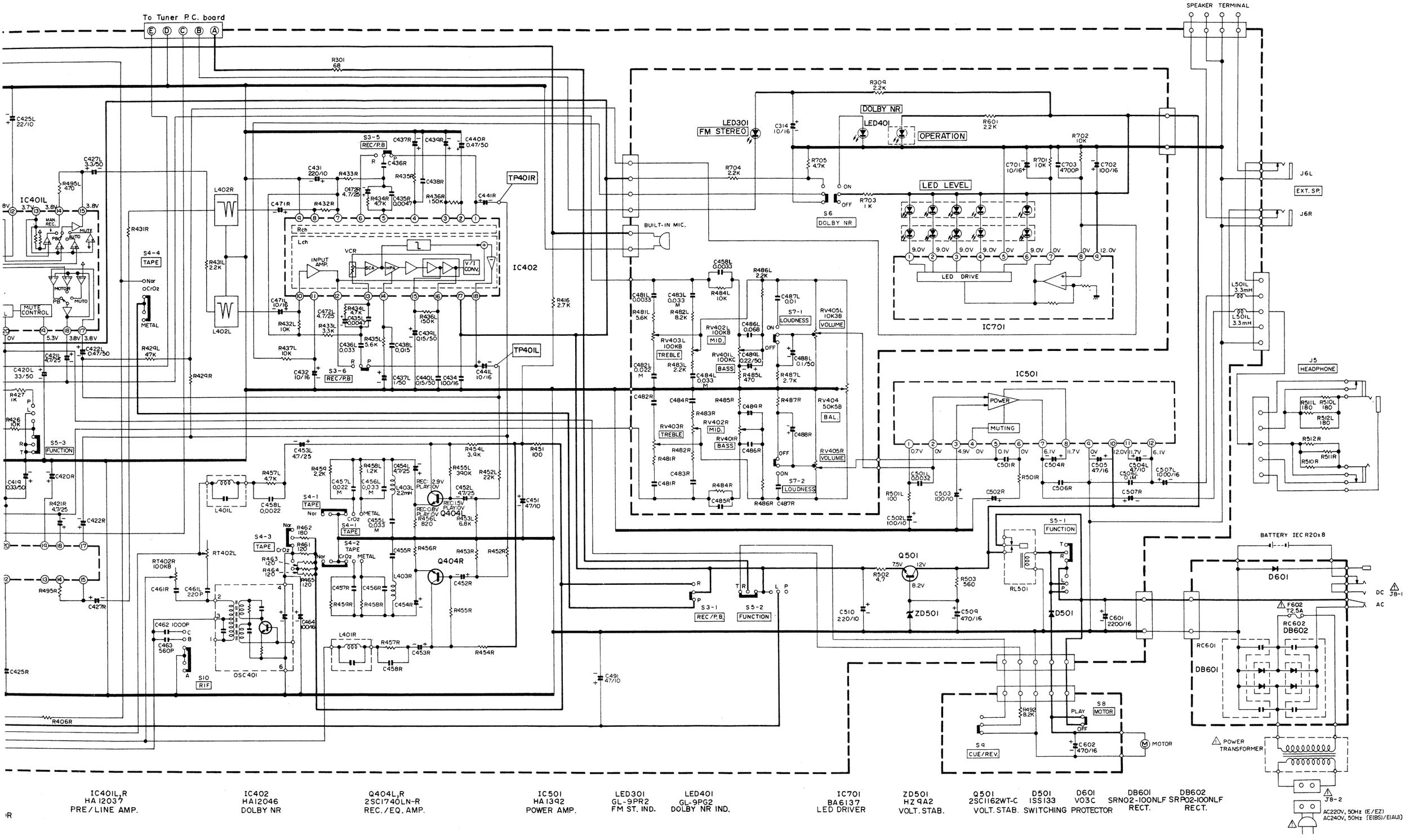
| | PLAY, DOLBY NR:OFF | PLAY, DOLBY NR:ON | REC, DOLBY NR:ON |
|---|---|---|---|
| 1 | 4.0V | 4.0V | 3.9V |
| 2 | 0.7V | 0.7V | 0.7V |
| 3 | 0.7V | 0.7V | 0.7V |
| 4 | 3.7V | 3.7V | 3.6V |
| 5 | 3.7V | 3.7V | 3.6V |
| 6 | 3.4V | 3.4V | 3.3V |
| 7 | 3.7V | 3.7V | 3.6V |
| 8 | 3.7V | 3.7V | 3.6V |
| 9 | 0V | 0V | 0V |
| 10 | 3.7V | 3.7V | 3.6V |
| 11 | 0V | 4.9V | 0V |
| 12 | 3.4V | 3.4V | 3.4V |
| 13 | 3.7V | 3.7V | 3.6V |
| 14 | 3.7V | 3.7V | 3.6V |
| 15 | 0.7V | 0.7V | 0.7V |
| 16 | 0.7V | 0.7V | 0.7V |
| 17 | 7.2V | 7.2V | 7.1V |
| 18 | 4.0V | 4.0V | 3.9V |

## SCHEMATIC DIAGRAM (Tape Recorder Section)




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Q405L,R<br>2SC458<br>DIN MUTE | Q402<br>2SC1740LN-R<br>MIC. ALC | Q401L,R<br>2SC458<br>SWITCHING | ZD401<br>HZ-28<br>VOLT. STAB. | Q403<br>2SC458<br>REGULATOR | D401<br>IS2473<br>PROTECTOR | IC401L,R<br>HA12037<br>PRE/LINE AMP. | IC402<br>HA12046<br>DOLBY NR | Q404L,R<br>2SC1740LN-R<br>REC./EQ. AMP. | IC501<br>HA1392<br>POWER AMP. | LED301<br>GL-9PR2<br>FM ST. IND. | LED401<br>GL-9PG2<br>DOLBY NR IND. |

TRK-9100




IC401L,R
HA12037
PRE/LINE AMP.

IC402
HA12046
DOLBY NR

Q404L,R
2SC1740LN-R
REC./EQ. AMP.

IC501
HA1392
POWER AMP.

LED301
GL-9PR2
FM ST. IND.

LED401
GL-9PG2
DOLBY NR IND.

IC701
BA6137
LED DRIVER

ZD501
HZ9A2
VOLT. STAB.

Q501
2SC1162WT-C
VOLT. STAB.

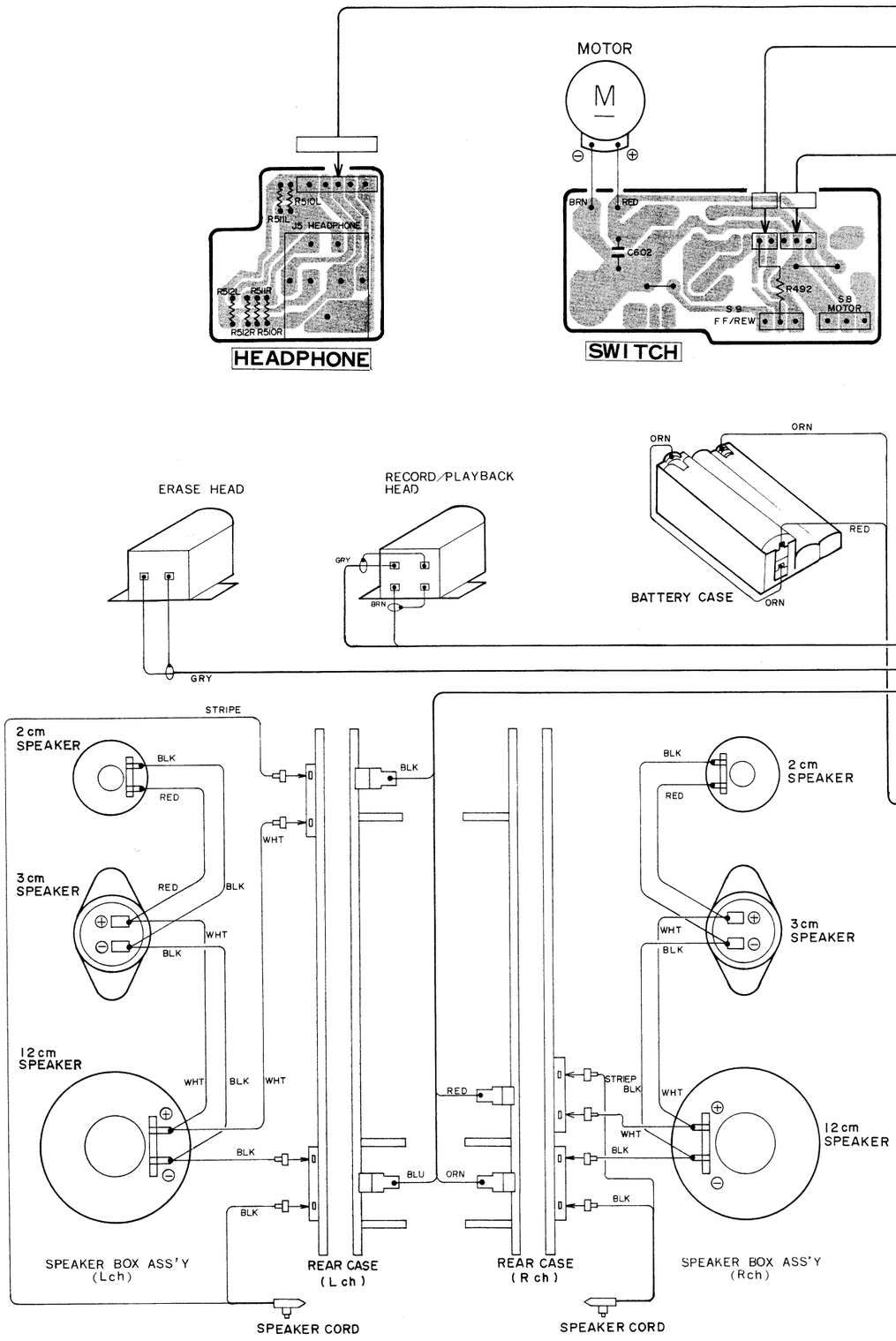
D501
1SS133
SWITCHING

D601
V03C
PROTECTOR

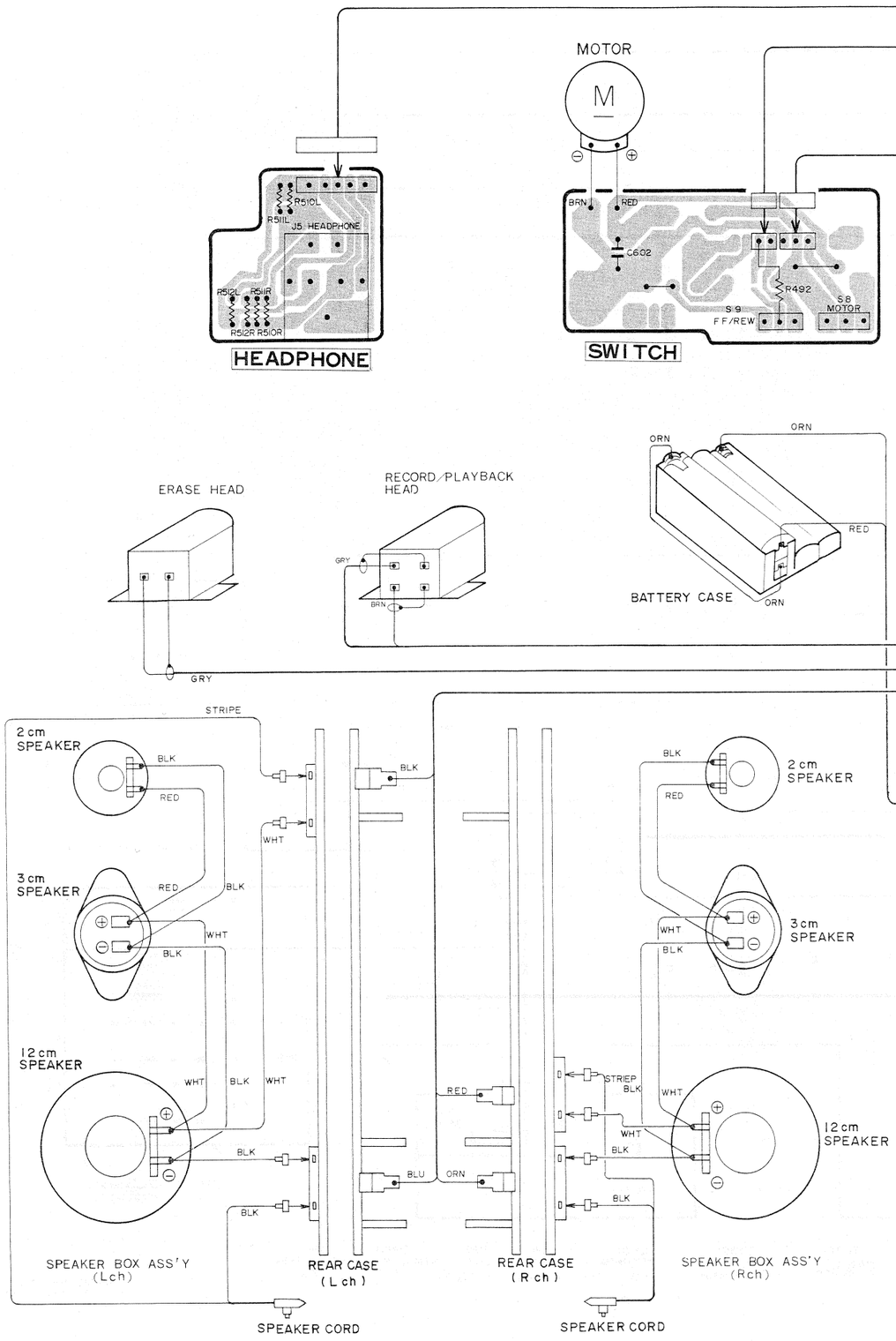
DB601
SRN02-100NLF
RECT.

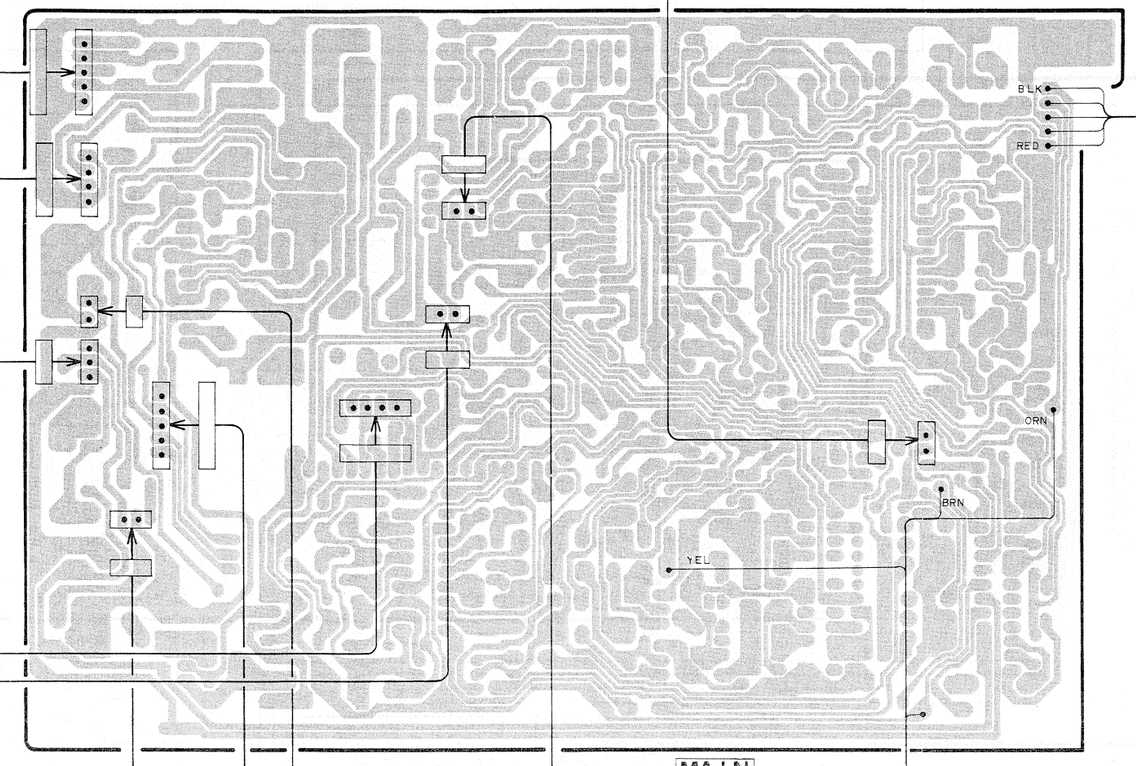
DB602
SRP02-100NLF
RECT.

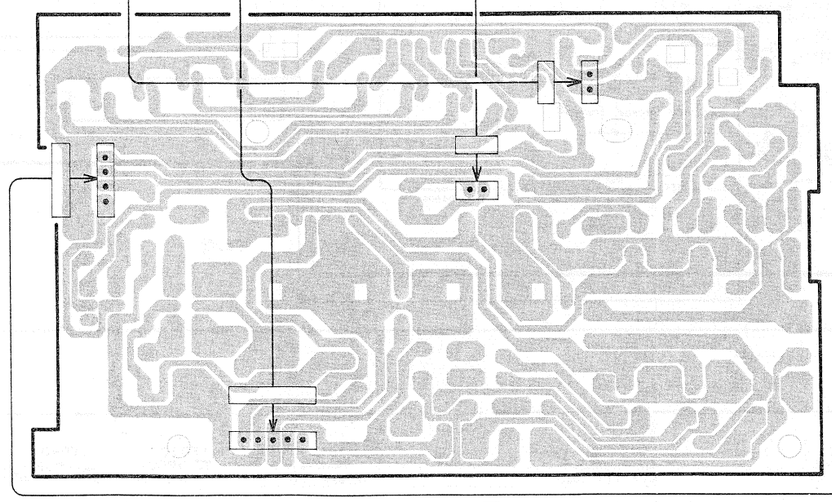
## WIRING DIAGRAM

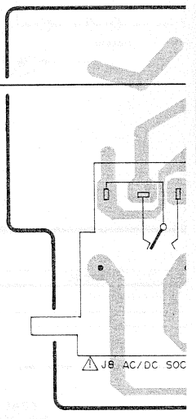


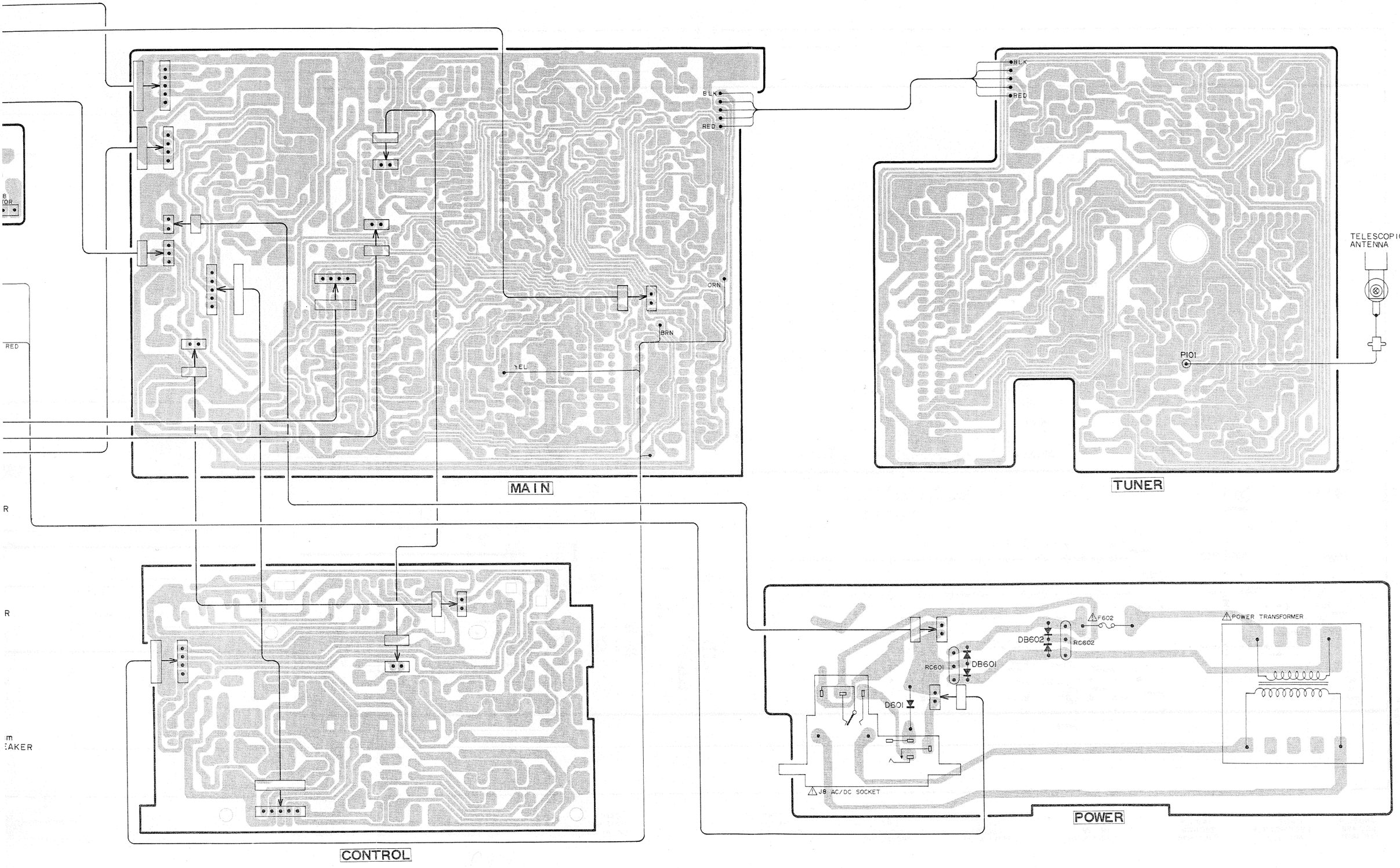
## WIRING DIAGRAM



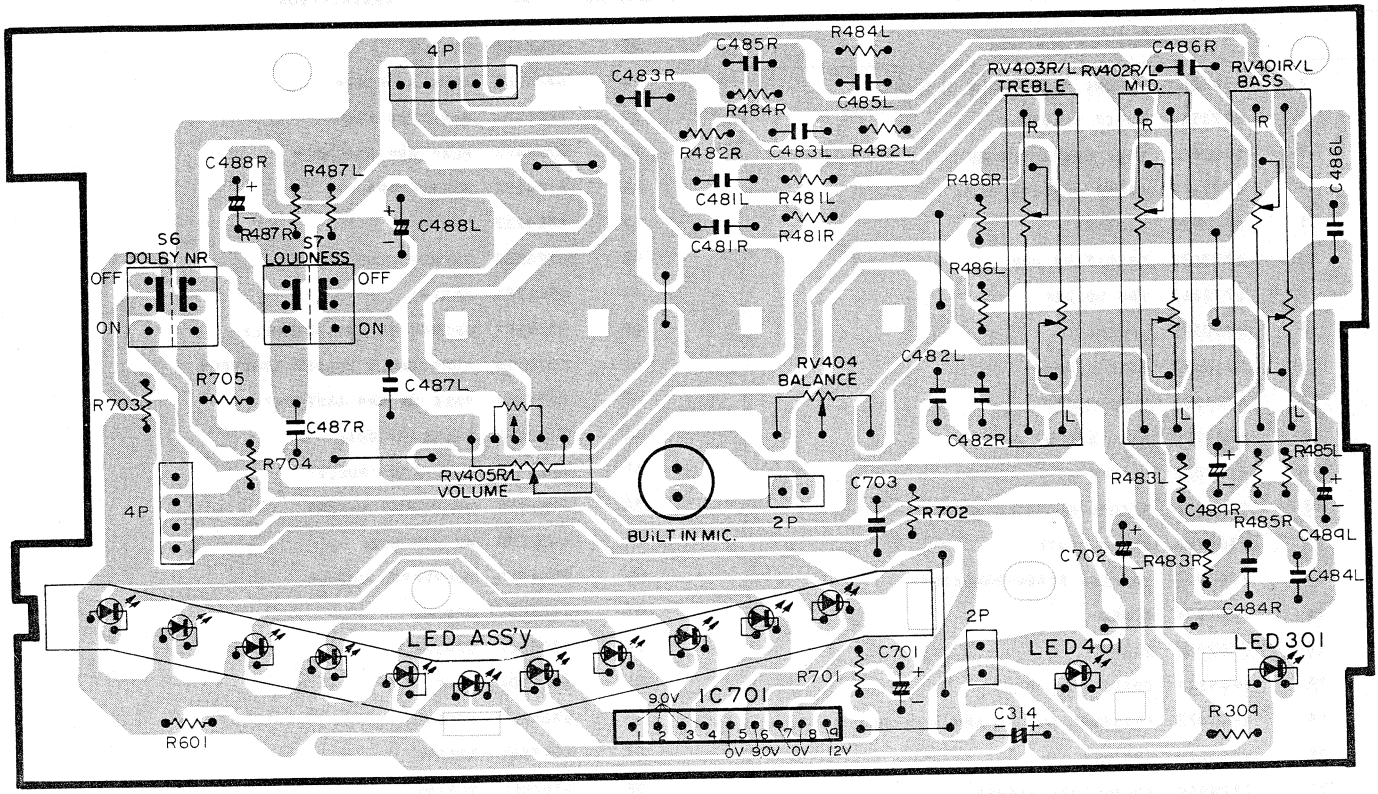



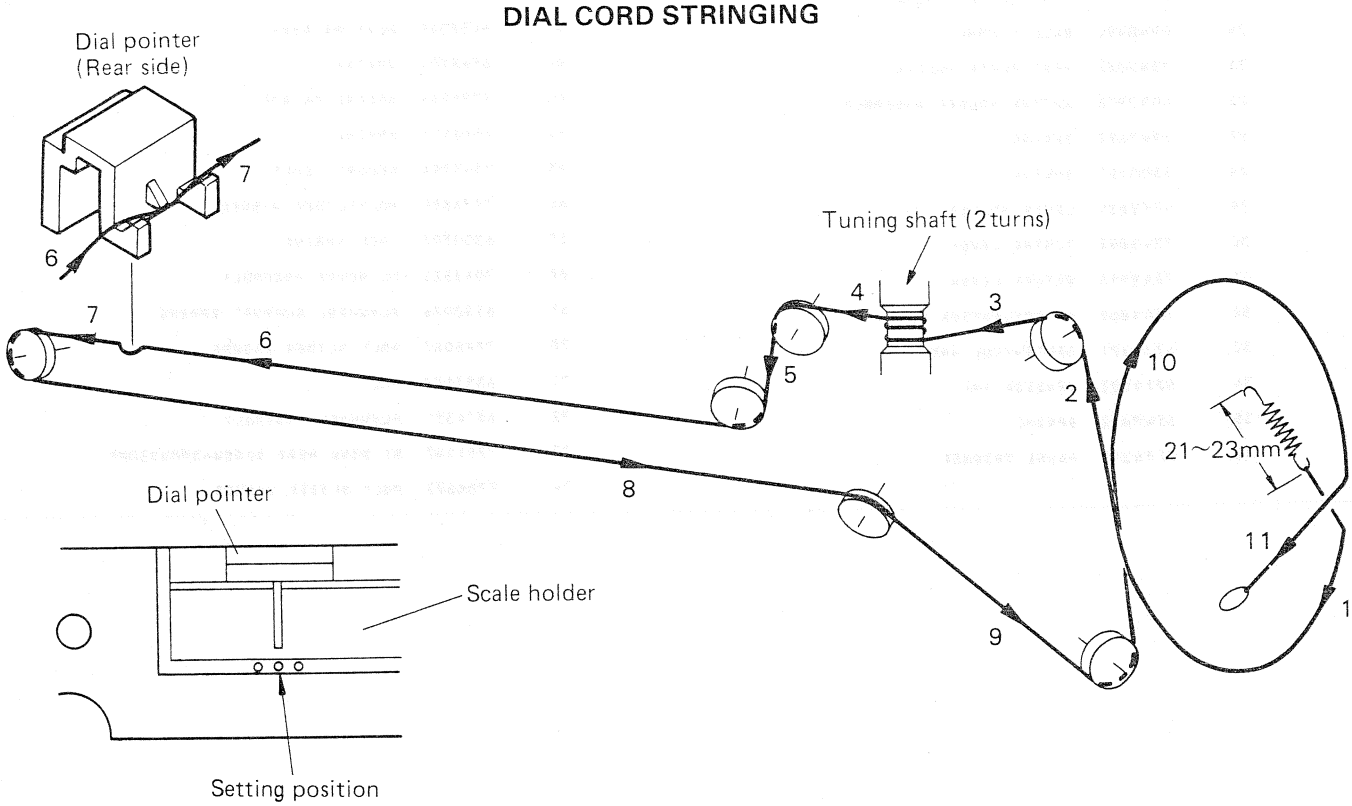




BLK
RED
ORN
BRN
YEL
MAIN
BLK
RED
TELESCOPIC ANTENNA
P101
TUNER
CONTROL
F602
POWER TRANSFORMER
DB602
RC602
RC601
DB601
D601
J8 AC/DC SOCKET
POWER

## CIRCUIT BOARD DIAGRAM




## DIAL CORD STRINGING




**Stringing Method**

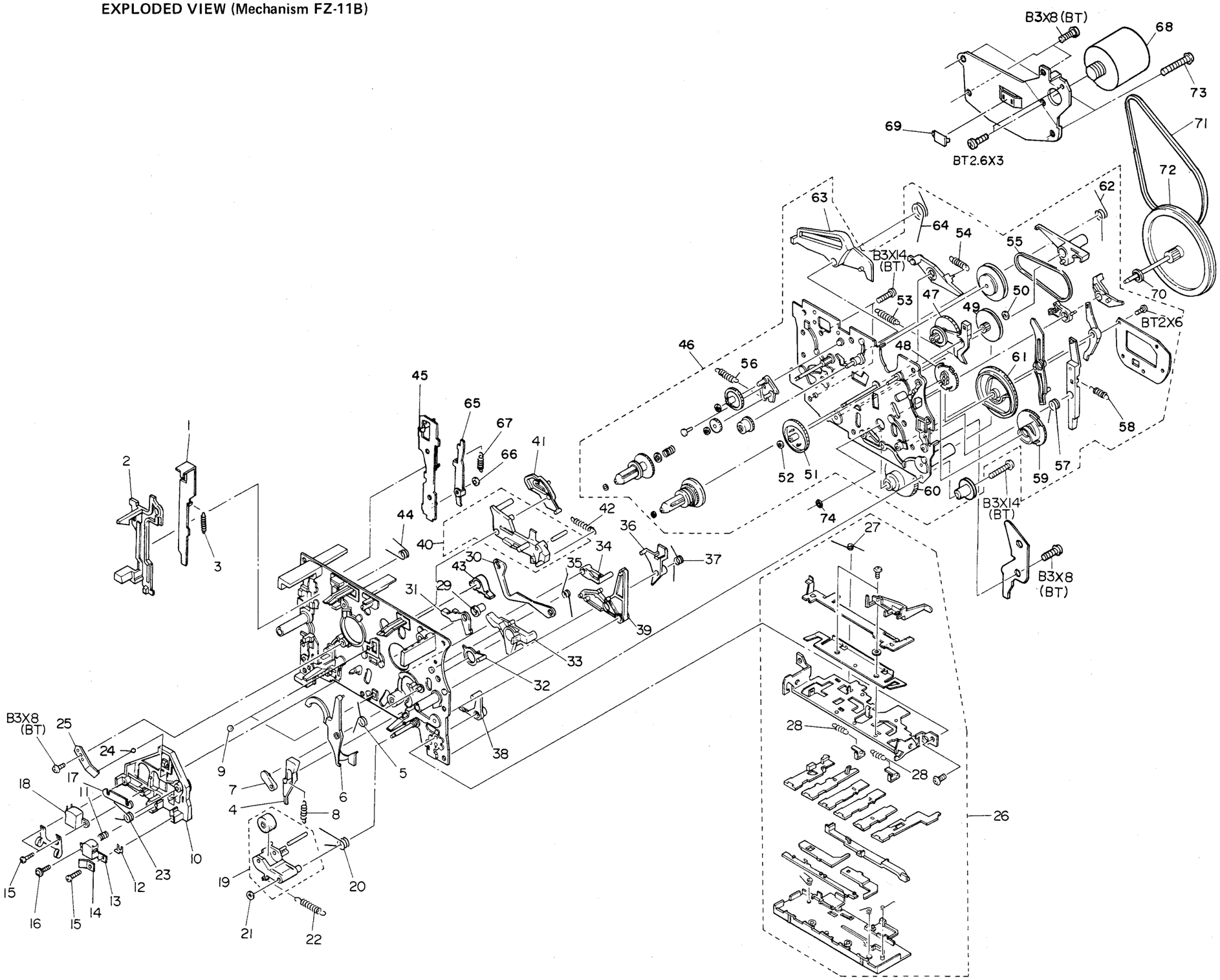
1. Turn the pulley fully clockwise.
2. String the dial cord in the direction of the arrow (Nos. 1 – 11).
3. Set the dial pointer to setting position.

# REPLACEMENT PARTS LIST

MECHANISM (FZ-11B)

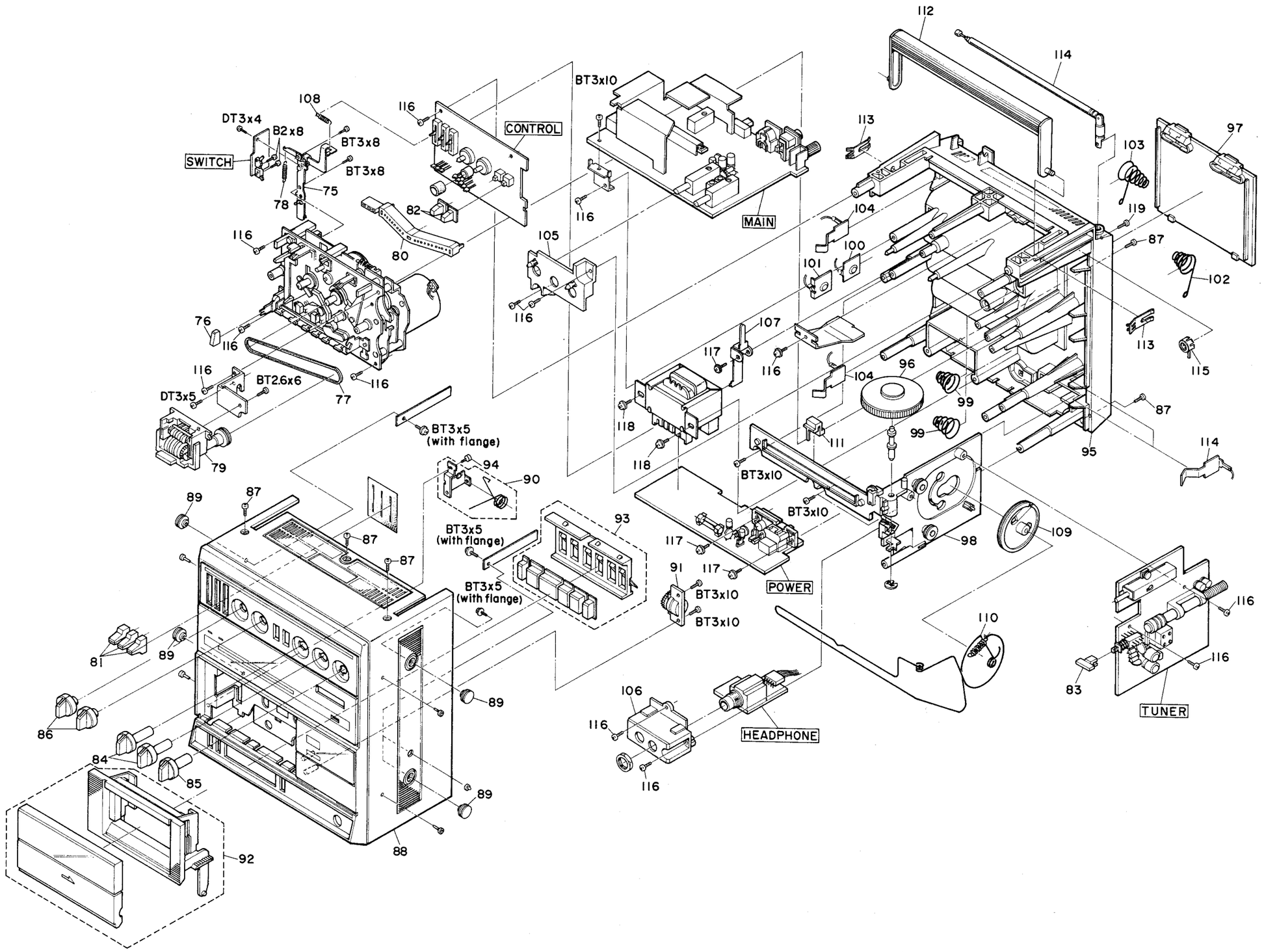
| SYMBOL-NO | P-NO | DESCRIPTION |
|---|---|---|
| 1 | 7345871 | RECORD PREVENTION SLIDER |
| 2 | 6771344 | EJECT SLIDER |
| 3 | 6301011 | LOCK LEVER SPRING |
| 4 | 6773822 | PAUSE SENSING ARM |
| 5 | 6547923 | SPRING |
| 6 | 6773832 | OPERATING ARM |
| 7 | 6772843 | ARM HOLDER |
| 8 | 6300595 | SPRING |
| 9 | 0948492 | BALL - 2MMD |
| 10 | 6771334 | HEAD PLATE |
| 11 | 6321733 | HEAD SPRING C |
| 12 | 7757042 | SPACER |
| 13 | 5449032 | RECORD PLAYBACK HEAD |
| 14 | 7339961 | EARTH PLATE |
| 15 | 7780913 | TAPPING SCREW-2MMDX10MM |
| 16 | 7781004 | SCREW |
| 17 | 7757052 | SPACER |
| 18 | 5445531 | ERASE HEAD |
| 19 | 6771072 | PRESSURE ROLLER ARM ASSEMBLY |
| 20 | 6547692 | SPRING |
| 21 | 7778859 | POLYSLIDER WASHER |
| 22 | 6301101 | SPRING |
| 23 | 6547571 | HEAD PLATE SPRING |
| 24 | 0948492 | BALL - 2MMD |
| 25 | 7345882 | HEAD PLATE HOLDER |
| 26 | 6057975 | BUTTON HOLDER ASSEMBLY |
| 27 | 6547642 | SPRING |
| 28 | 6300181 | SPRING |
| 29 | 6772831 | LEVER HOLDER |
| 30 | 7345892 | TIMING LEVER |
| 31 | 7345913 | RETURN LEVER |
| 32 | 7345862 | AS PREVENTION LEVER |
| 33 | 6774221 | REVIEW/CUE ARM |
| 34 | 6771082 | TENSION ARM |
| 35 | 6547622 | SPRING |
| 36 | 6774211 | PAUSE TRIGGER |
| 37 | 6548261 | SPRING |
| 38 | 6774201 | AUTO STOP ARM |
| 39 | 6771474 | FUNCTION ARM |
| 40 | 6771413 | PLAY ARM ASSEMBLY |
| 41 | 6774231 | SWITCH ARM |
| 42 | 6301233 | SPRING |
| 43 | 6773332 | SEARCH STOPPER |
| 44 | 6548281 | SPRING |
| 45 | 7345807 | RECORD SLIDER ASSEMBLY |
| 46 | 6771716 | TURN TABLE HOLDER ASSEMBLY |
| 47 | 6771364 | TAKE UP ARM ASSEMBLY |
| 48 | 6432212 | PAUSE PA GEAR |
| 49 | 6422772 | AUTO STOP PULLEY |
| 50 | 7786115 | POLYESTER WASHER |
| 51 | 6432073 | AS CAM GEAR |
| 52 | 7786115 | POLYESTER WASHER |
| 53 | 6301331 | SPRING |
| 54 | 6301101 | SPRING |
| 55 | 6355504 | BELT |
| 56 | 6301331 | SPRING |
| 57 | 6547561 | SPRING |
| 58 | 6301001 | SPRING |
| 59 | 6432053 | FF PA GEAR |
| 60 | 6432061 | REWIND PA GEAR |
| 61 | 6432042 | PLAY PA GEAR |
| 62 | 6548121 | SPRING |
| 63 | 6771244 | RECORD PA ARM |
| 64 | 6548112 | SPRING |
| 65 | 7345994 | RECORD LEVER |
| 66 | 7778859 | POLYSLIDER WASHER |
| 67 | 6300592 | LOCK SPRING |
| 68 | 7043325 | DC MOTOR ASSEMBLY |
| 69 | 6530926 | FLYWHEEL SUPPORT SPRING |
| 70 | 7788067 | POLY SLIDER WASHER |
| 71 | 6355509 | BELT |
| 72 | 6374551 | FLYWHEEL ASSEMBLY |
| 73 | 7781147 | BT BIND HEAD SCREW-3MMDX30MM |
| 74 | 7786623 | POLY SLIDER WASHER |

EXPLODED VIEW (Mechanism FZ-11B)




**Note:** Components marked without numbers in this drawing are not specified as replacement parts.

**EXPLODED VIEW (Cabinet)**

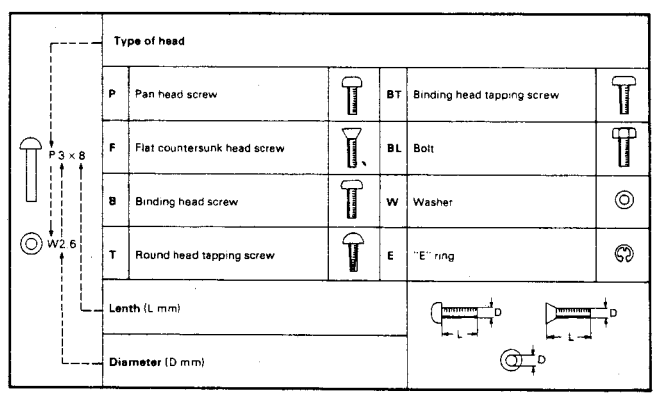



**Note:** Components marked without numbers in this drawing are not specified as replacement parts.

| SYMBOL-NO | P-NO | DESCRIPTION |
|---|---|---|
| | | FOR CASSETTE DECK ASSEMBLY |
| 75 | 7347152 | RECORD LEVER ASSEMBLY |
| 76 | 6056423 | EJECT BUTTON ASSEMBLY |
| 77 | 6354472 | COUNTER BELT |
| 78 | 6542552 | REC SPRING |
| 79 | 5559592 | COUNTER |
| 80 | 6776151 | LED HOLDER |
| | | MISCELLANEOUS |
| 81 | 6293901 | SLIDE KNOB (BASS,TREBLE,MID) |
| 82 | 6293881 | PUSH BUTTON(LOUDNESS,DOLBY) |
| 83 | 6293891 | PUSH BUTTON (AFC/MODE) |
| 84 | 6284331 | KNOB (TAPE,FUNCTION) |
| 85 | 6284332 | KNOB (BAND) |
| 86 | 6284333 | KNOB (VOLUME,BALANCE) |
| 87 | 8698410 | BT BIND SCREW-3MMDX10MM |
| 88 | 6037682 | FRONT CASE ASSEMBLY |
| 89 | 7544967 | JOINT SHAFT |
| 90 | 7347223 | EJECT HOLDER ASSEMBLY |
| 91 | 6768341 | DAMPER |
| 92 | 6094106 | CASSETTE LID ASSEMBLY |
| 93 | 6057031 | FUNCTION BUTTON ASSEMBLY |
| 94 | 8699408 | BT BIND HEAD SCREW-3MMDX8MM (BLACK) |
| 95 | 6037602 | REAR CASE ASSEMBLY (E) |
| 95 | 6037603 | REAR CASE ASSEMBLY (E(BS)) |
| 95 | 6037604 | REAR CASE ASSEMBLY (EZ) |
| 95 | 6037609 | REAR CASE ASSEMBLY (E(AU)) |
| 96 | 6284091 | TUNING KNOB ASSEMBLY |
| 97 | 6172431 | BATTERY LID ASSEMBLY |
| 98 | 6776131 | DIAL CORD STRINGING HOLDER ASSEMBLY |
| 99 | 6324112 | BATTERY SPRING |
| 100 | 7450344 | BATTERY TERMINAL |
| 101 | 7450343 | BATTERY TERMINAL |
| 102 | 6303973 | SPRING |
| 103 | 6303972 | SPRING |
| 104 | 7776471 | SPEAKER TERMINAL |
| 105 | 6776161 | P.W.B HOLDER |
| 106 | 6776141 | HEADPHONE SOCKET HOLDER |
| 107 | 7354572 | RECORD ARM |
| 108 | 6300593 | LOCK SPRING |
| 109 | 6346355 | PULLEY |
| 110 | 6316231 | SPRING M |
| 111 | 6398871 | POINTER |
| 112 | 6334921 | HANDLE ASSEMBLY |
| 113 | 6531142 | SPRING |
| 114 | 5752711 | TELESCOPIC ANTENNA |
| 115 | 5687142 | CAP TERMINAL |
| 116 | 8699410 | BT BIND HEAD SCREW-3MMDX10MM (BLACK) |
| 117 | 7781132 | BT SCREW 3MMDx10MM |
| 118 | 7781136 | BT SCREW 3MMD x 20MM |
| 119 | 8678414 | DT BIND SCREW-3MMDX14MM |
| 120 | 6037542 | SPEAKER BOX ASSEMBLY(R) |
| 121 | 6174501 | CORD LID |
| 122 | 7354601 | JOINT HOLDER ASSEMBLY |
| 123 | 6037612 | BAFFLE PLATE ASSEMBLY |
| 124 | 5746991 | SPEAKER CORD |
| 125 | 5406842 | SPEAKER-12CM |
| 126 | 5409112 | SPEAKER-3CM |
| 127 | 5419071 | SPEAKER-2CM |
| 128 | 6774412 | SPEAKER HOLDER |
| 129 | 7781147 | BT BIND HEAD SCREW-3MMDX30MM |
| 130 | 7781132 | BT SCREW 3MMDx10MM |
| 131 | 6037552 | SPEAKER BOX ASSEMBLY(L) |
| | | CAPACITORS |
| CT151 | 5058191 | TRIMMER 10PF |
| CT153-154 | 5058191 | TRIMMER 10PF |
| CT156 | 5058414 | TRIMER 20P |
| C104 | 0246444 | CERAMIC DISCAL 15PF+-5% |
| C108 | 0248336 | CERAMIC DISCAL 18PF+-5%(N-470) |
| | 5052781 | VARIABLE CAPACITOR |
| | | RESISTORS |
| RC601-602 | 0186451 | CR PACK |
| RT301 | 5007477 | SEMI VARIABLE 10KOHM |
| RT401LR | 5007432 | SEMI VARIABLE 1.0KOHM |
| RT402LR | 5007701 | SEMI VARIABLE 100KOHM |
| RV401LR | 5027162 | VARIABLE RESISTOR 100KOHM(C) |
| RV402LR | 5027161 | VARIABLE RESISTOR 100KOHM(B) |
| RV403LR | 5027161 | VARIABLE RESISTOR 100KOHM(B) |
| RV404 | 5000894 | VARIABLE RESISTOR 50KOHM(B) |
| RV405LR | 5000913 | VARIABLE RESISTOR 10KOHM(B) |
| R502 | 0170473 | FUSE RESISTOR 4.7OHM+-5% |
| | | SEMI-CONDUCTORS |
| DB601 | 5331452 | DIODE SRN02-100NLF |
| DB602 | 5331451 | DIODE SRP02-100NLF |
| D101 | 5339021 | DIODE 1SS133 |
| D102 | 5330661 | DIODE SILICON 1S2790 |
| D103 | 5339021 | DIODE 1SS133 |
| D301 | 5339021 | DIODE 1SS133 |
| D401 | 5330571 | DIODE IS2473VE |
| D501 | 5339021 | DIODE 1SS133 |
| D601 | 5330001 | RECTIFIER SILICON V03C |
| IC101 | 5351902 | IC AN7213A |
| IC201 | 5368171 | IC AN7224 |
| IC301 | 5350684 | IC HA1330 |
| IC401LR | 5369901 | IC HA12037 |
| IC402 | 5369891 | IC HA12046 |
| IC501 | 5352141 | IC HA1392 |
| IC701 | 5352572 | IC BA6137 |
| LED | 5381241 | LED ASSEMBLY |
| LED301 | 5380271 | LED GL-9PR2 |
| LED401 | 5380281 | LED GL-9PG2 |
| Q171 | 5323061 | TRANSISTOR 2SC380TM-O (EZ) |

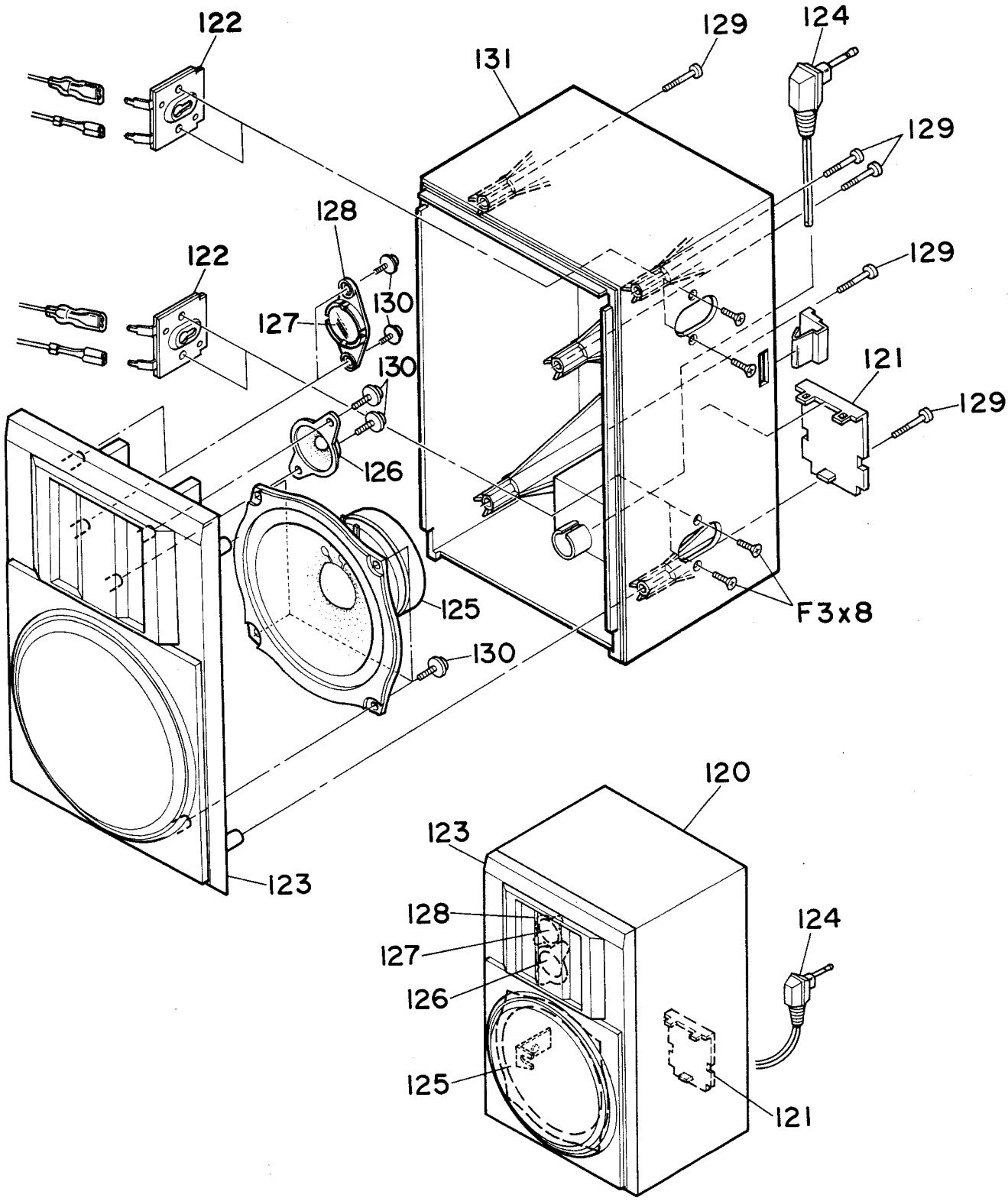
| SYMBOL-NO | P-NO | DESCRIPTION |
|---|---|---|
| | | **SEMI-CONDUCTORS** |
| Q201 | 5323061 | TRANSISTOR 2SC380TM-O |
| Q401LR | 5320069 | TRANSISTOR 2SC458CD |
| Q402 | 5321293 | TRANSISTOR 2SC1740LN-R |
| Q403 | 5320069 | TRANSISTOR 2SC458CD |
| Q404LR | 5321293 | TRANSISTOR 2SC1740LN-R |
| Q405LR | 5320069 | TRANSISTOR 2SC458CD |
| Q501 | 5320643 | TRANSISTOR 2SC1162WT-C |
| ZD401 | 5330715 | ZENER DIODE HZ2B |
| ZD501 | 5330325 | ZENER DIODE HZ9A2 |
| | | **TRANSFORMERS** |
| ⚠ PT | 5213143 | POWER TRANSFORMER [E/EZ] |
| ⚠ PT | 5213144 | POWER TRANSFORMER [E(BS)/E(AU)] |
| T101 | 5140071 | FM IF TRANSFORMER |
| T151 | 5152372 | AM IF TRANSFORMER |
| | | **COILS** |
| L101 | 5126482 | FM RF COIL |
| L102 | 5126278 | FM OSILLATOR COIL |
| L151 | 5123493 | SW ANTENNA [E,E(BS)] |
| L151 | 5123776 | SW ANTENNA COIL [EZ/E(AU)] |
| L152-153 | 5113711 | FERRITE ANTENNA |
| L154 | 5123678 | SW OSCILLATOR COIL |
| L155 | 5120518 | MW OSCILLATOR COIL |
| L156 | 5120663 | MW OSCILLATOR COIL |
| L170 | 5123271 | FM TRAP COILL0.5MH |
| L201 | 5152324 | CHOKE COIL 10μH+-10% |
| L301LR | 5150571 | CHOKE COIL 33MH |
| L401LR | 5120566 | CHOKE COIL |
| L402LR | 5162283 | LOW PASS FILTER |
| L403LR | 5120274 | CHOKE COIL |
| L501LR | 5150761 | CHOKE COIL |

| SYMBOL-NO | P-NO | DESCRIPTION |
|---|---|---|
| | | **MISCELLANEOUS** |
| | 5421921 | BUILT IN MICROPHONE |
| | 5686201 | TERMINAL PLATE |
| BP101 | 5161551 | FILTER |
| CF201 | 5160303 | CERAMIC FILTER 10.7MHZ |
| CF203 | 5160065 | CERAMIC FILTER 468KHZ |
| CF204 | 5160381 | CERAMIC FILTER 10.7MHZ |
| ⚠ F602 | 5721064 | FUSE 2.5A |
| J 1 | 5673381 | JACK-3.5MMD |
| J 2LR | 5676322 | 2P PIN JACK |
| J 3 | 5653181 | DIN SOCKET |
| J 5 | 5674353 | HEADPHONE JACK |
| J 6LR | 5673381 | JACK-3.5MMD |
| ⚠ J 8 | 5652342 | AC-DC SOCKET [E/E(BS)/EZ] |
| ⚠ J8 | 5652341 | AC – DC SOCKET [E/(AU)] |
| OSC401 | 5260981 | OSCILLATOR BLOCK |
| RL501 | 5641491 | RELAY |
| S 1 | 5613454 | SLIDE ROTARY SWITCH (BAND) |
| S 2 | 5634418 | PUSH SWITCH (FM MODE) |
| S 3 | 5622301 | SLIDE SWITCH (REC/P.B.) |
| S 4 | 5613452 | SLIDE ROTARY SWITCH (TAPE) |
| S 5 | 5613451 | SLIDE ROTARY SWITCH (FUNCTION) |
| S 6 | 5633792 | PUSH SWITCH (DOLBY NR) |
| S 7 | 5633792 | PUSH SWITCH (LOUDNESS) |
| S 8 | 5633891 | PUSH SWITCH (MOTOR) |
| S 9 | 5633691 | PUSH SWITCH (CUE/REV.) |
| S 10 | 5624411 | SLIDE SWITCH (RIF) |
| | | **FOR ACCESSARIES** |
| ⚠ | 5747324 | POWER CORD [E, EZ] |
| ⚠ | 5746344 | POWER CORD [E(BS)] |
| ⚠ | 5747172 | POWER CORD [E(AU)] |




When ordering hardware excluding stated on these lists, be sure to make your orders with type and size.

## EXPLODED VIEW (Speaker box)




**Note:** Components marked without numbers in this drawing are not specified as replacement parts.